ARBORICULTURAL ABSTRACTS

NICHES IN THE URBAN FOREST: ORGANIZATIONS AND THEIR ROLE IN ACQUIRING METROPOLITAN OPEN SPACE

J.A. Ruliffson, P.H. Gobster, R. G. Haight, and F.R. Homans

As a responsive strategy to minimize the impacts of urban sprawl, public and private organizations are striving to acquire open lands that will contribute to a resilient and multifunctional urban forest. In the Chicago metropolitan region, we interviewed representatives of 15 organizations to understand the land acquisition process—the structures and functions of groups involved, their acquisition goals, and the cooperation among groups as they work to building metropolitan green infrastructure. Our findings reveal strength in diversity—a variety of groups working at different levels with complementary goals can help meet the complex challenges of land protection. (J. For. 2002. September:16–19)

CAN SMALL, RURAL COMMUNITIES PRACTICE URBAN FORESTRY?

J.W. Groninger, D.D. Close, and C.M. Basal

The practice of urban forestry traditionally has been confined to large cities and their suburbs. However, trees and forests within municipalities—regardless of community size or location within a rural, urban, or suburban setting—all have the potential to provide residents with the environmental benefits and other amenities associated with urban forestry. In most cases, the management afforded metropolitan trees is far superior to that in nonmetropolitan communities. As a result, small towns are often populated by unsightly, unhealthy, and potentially dangerous trees. The biological, economic, and social forces underlying the poor condition of these forests are presented and potential remedies discussed. (J. For. 2002. January/February:23–27)

NITROGEN ABSORPTION, TRANSLOCATION, AND DISTRIBUTION FROM UREA APPLIED IN AUTUMN TO LEAVES OF YOUNG POTTED APPLE *(MALUS DOMESTICA)* TREES

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We studied the absorption, assimilation, translocation, and distribution of nitrogen (N) from urea applied in autumn to leaves of 1-year-old potted Fuji/M26 apple (*Malus domestica* Borkh.) trees. In early October, all leaves of each tree were painted with either 3% urea (enriched to 10 atom % with ^{15}N) or water (control trees). Four trees were harvested before the treatment, and N and amino acid contents were determined. Four trees from each treatment were harvested at 2, 4, 7, 10, 15, and 20 days after urea or water application. Total N, amino acid, and ^{15}N in leaves, bark, xylem, shank, and roots were analyzed to determine uptake and mobilization on N from urea. Most uptake of ^{15}N by leaves occurred during the first 2 days following application of urea. The mean rate of absorption during these 2 days was 0.29 g m^{-2} day^{-1}. Amino acids in leaves, bark, and roots increased significantly after urea application compared to control values. The highest concentrations of amino acids in leaves and bark occurred 4 days after application, whereas the highest concentration of amino acids in roots occurred 10 days after application. Total ^{15}N content in leaves peaked 2 days after urea application and then decreased, whereas ^{15}N content in roots and bark increased throughout the experiment. Total ^{15}N content in xylem and shank was low. Leaves absorbed 35% of the ^{15}N applied as urea, and 63.6% of absorbed ^{15}N was translocated out of leaves within 20 days after urea application. We conclude that N from urea was converted to amino acids in leaves after foliar application in autumn, and roots, and bark were the main sinks of N from urea applied to leaves. (Tree Physiol. 2002. 22:1305–1310)

IS AUXIN THE REPRESSOR SIGNAL OF BRANCH GROWTH IN APICAL CONTROL?

M.G. Cline and K. Sadeski

"Apical control" is the repression of branch growth by a higher dominating branch or shoot. There has been some confusion in the literature concerning the meaning and causal mechanisms of this correlative phenomenon with those of "apical dominance," which term is often used in a strict sense to connote the repression of the initiation of auxiliary bud outgrowth by an active shoot apex. Although the term "apical control" is most commonly employed with respect to woody species, this phenomenon also widely occurs in herbaceous plants. Because of the strong evidence for a role of auxin as a repressor signal in apical dominance and partly because of this lack of distinction in terminology, a similar role for auxin in apical control is often assumed in spite of the obvious acropetal auxin transport difficulty and the lack of direct evidence for the acropetal transport of any inhibitor influence. In the present study with the herbaceous *Ipomoea nil*, it has been clearly demonstrated that while exogenous auxin (1% NAA) strongly restores apical dominance in the Thimann-Skoog experiment, auxin treatments to decapitated dominant shoots do not, in any observable way, restore apical control in lower dominated branches. Hence, in this fast-growing species, the hypothesis for the role of auxin as a repressor signal for apical control is not supported. (Am. J. Bot. 2002. 89(11):1764–1771)

MANAGEMENT STYLES AND KNOWLEDGE CULTURES, PAST, PRESENT AND FUTURE, RELATED TO MULTIPLE-USE AND URBAN WOODLANDS

A. Jönsson and R. Gustavsson

This paper is based on interviews with 15 professionals within ecology, forestry, and park and landscape architecture. The interviewees are believed to have a large influence on woodland planning in Sweden between 1950 and 2000. They have won recognition because of their ability to transform theoretical knowledge into practical action. Their work is translating theory into practice and, as such, it may be regarded as an art in its deepest sense. During a long period, the educational system as well as the dominating research has been concentrating on providing better facts in a search for the best knowledge, high degrees of generality and objectivity. However, this may cause many disadvantages. It has led to a standardization and an oversimplification of knowledge and thereby also to an oversimplification of the landscape. This study is based on a humanistic approach, on theory of knowledge, of how facts coming from the world of natural sciences can be encapsulated in daily woodland management. (Urban For. Urban Green. 2002. 1:39–48)

WHAT ARE TREES FOR?

M. Spray

The paper first examines the notion of trees as "service providers." Some of the possible formal and informal ways in which trees are valued are outlined. The question of what is meant by "values" is then raised. "Instrumental" and "intrinsic" values are recognized, along with anthropocentric and bio-/ecocentric attitudes in regard to trees. The discussion moves on to consider what moral actions different types of "valuing" might imply, and what "rights" trees might have by virtue of their values. Issues of language and of science are also touched on. The merit of personal or subjective attitudes toward trees is dealt with. It is concluded that a new ethical "relationship" with trees may be emerging, which is more balanced than our predominately rational, objective one. (Arboric. J. 2002. 26:263–279)